

CLAIMS

1. A device for controlling a circuit-breaker intended for opening and closing this electric power cut-off device comprising a mobile contact, this control device comprising a motor (3) with a rotary output shaft (12) and being connected to power supply means (4-9) and to actuation means transforming the output displacement of said motor (3) into a displacement of said contact, the device also comprising an arrangement of a mechanical spring involved in opening and closing said contact, said 5 spring arrangement including two pre-stressed and antagonist mechanical springs, a first spring (15), a so-called opening spring, ensuring the opening of said contact and a second spring (16), a so-called closing spring, ensuring the closing of said contact, said 10 actuation means being stressed by each of these two springs separated by a ring (18), and including an arrangement for immobilizing said contact in the open 15 position and the closed position,

characterized in that said actuation means include a 20 set of jointed elements providing the connection of said rotary shaft (12) and of said ring (18), and in that, in the closed position of said contact, said set of jointed elements abuts against an abutment element (19) near a dead centre position, a so-called open dead centre, the 25 opening spring (15) only being able to drive it towards

the open position upon moving past this dead centre during opening.

2. The device according to claim 1, characterized in
5 that said set of jointed elements comprises a crank (14) driven into rotation by said output shaft (12) and jointed at one end of a connecting rod (17), the other end of which is jointed on said ring (18).

10 3. The device according to claim 2, characterized in that, in the open position of said contact, said set of jointed elements abuts against said abutment element (19) near a dead centre position, a so-called closed dead centre, the closing spring (16) being only able to drive
15 it towards the closing position upon moving past this dead centre during closing.

4. The device according to claim 2 or claim 3, characterized in that said crank (14) is driven into
20 rotation by said output shaft (12) via a toothed segment (13) meshed on said output shaft (12) and on which it is jointed.

5. The device according to any of the preceding
25 claims, characterized in that said motor (3) is a motor for assisting and controlling the trajectory of said contact, powered by a power convertor (4) controlled by a position and speed regulator (5).

6. The device according to claim 5, characterized in that said regulator (5) provides damping of the displacement of said contact at the end of the travel for opening and at the end of the travel for closing.

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7. The device according to any of the preceding claims, characterized in that said springs (15, 16) are mounted aligned along an axis (A-A'), one of their respective ends abutting against a spring abutment (15A, 10 16A) and the other of their facing ends being separated by a ring (18).

8. The device according to any of the preceding claims, characterized in that it includes an arrangement 15 for disengaging the action of the closing spring (16).

9. The device according to the combined claims 7 and 8, characterized in that said disengaging arrangement consists in a device for controlled displacement of said 20 abutment (16A) of the closing spring (16).

10. The device according to claim 9, characterized in that it comprises a device for pushing (23) said set of jointed elements towards its open dead centre.

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11. The device according to the combined claims 2 and 10, characterized in that said pushing device consists in a striker (23) intended to stress said crank (14).

12. The device according to any of the preceding claims, characterized in that in the closing and opening positions of said contact, said connecting rod (17) abuts against said abutment element (19).